



SAN BERNARDINO MICROWAVE SOCIETY, Incorporated

FOUNDED IN 1966

A NON-PROFIT AMATEUR TECHNICAL ORGANIZATION DEDICATED
TO THE ADVANCEMENT OF COMMUNICATIONS ABOVE 1000 MC.

W6IFE Newsletter

President: **Doug Millar, K6JEY** 2791 Cedar Ave Long Beach, CA 90806 562-424-3737
doughhelen@moonlink.net

Vice President: **Dick Bremer, WB6DNX** 1664 Holly St. Brea, CA 92621 714-529-2800 rabremer@juno.com

Recording Sec: **Mel Swanberg, WA6JBD** 231 E Alessandro Blvd Riverside, CA 92508 909-369-6515
swanberg@pe.net

Corresponding Sec: **Kurt Geitner, K6RRA** 213 Main St. #5 Seal Beach, CA 90740 310-718-4910
k6rra@gte.net

Treasurer: **Dick Kolbly, K6HIJ** 26335 Community Barstow, CA 92311 760-253-2477
rkolbly@compuserve.com

Editor: **Bill Burns, WA6QYR** 247 Rebel Rd Ridgecrest, CA 93555 760-375-8566 bburns@ridgecrest.ca.us

Webmaster Chip Angle, N6CA

ARRL Interface Frank Kelly, WB6CWN 1111 Rancho Conejo Blvd. #501 Newbury Park, CA 91320
805-499-8047 fk@event1.com

FCC Interface Dave Laag, K6OW 11614 Indian St. Moreno Valley, CA 92557 909-924-1517

W6IFE License Trustee Ed Munn, W6OYJ 6255 Radcliffe Dr. San Diego, CA 92122 619-453-4563
edmunn@compuserve.com

The **1 November 2001** meeting of the SBMS will have Frank, WB6CWN talk on Phase Locked Loops and their design. The SBMS meets at the American Legion Hall 1024 Main Street (south of the 91 freeway) in Corona, CA at 1900 hours local time on the first Thursday of each month. Check out the SBMS web site at <http://www.ham-radio.com/sbms/>.

Last meeting Chip, N6CA lead a talk on the contacts with Clint, W1LP who is captain of a chemical transport ship that travels from the east coast to the west coast via Panama Canal. Clint likes to operate and now has microwave band equipment in addition to the lower band radios. Ken, WB6DTA, Sam, K6VLM; Dave, WA6CGR and Frank, WB6CWN each talked about their contacts to Clint on 10 GHz during his September trip down the west coast heading south. Clint has a 20 dB horn and a 1 w transmitter. He hears the California beacons well. Each station had worked him at some 450 miles and Frank managed the last contact at 797 miles. Sam had sent ATV pictures to Clint on 434 MHz over some 450 miles. Clint just has a normal TV using channel 59 for receive of ham band ATV. Our visitors this month were John, N6AX of Placentia and Keith, N6ORS of Corona. Welcome to Keith and John. Chuck, WA6EXV talked about progress on the rebuilt 2304.3 MHz beacon for Heaps Peak, DM14kf. The previous beacon had run some 23 years non-stop. The new beacon will have some 8

w to a 10 slot horizontal polarized omni-directional antenna. Sam K6VLM built a 1296 MHz to 2304 MHz transverter which Chuck combined into the beacon. Prototype antennas have been tested and the beacon transverter is burning in. Dave, WA6CGR had sample of the 3456 MHz amplifiers he found on ebay along with a vertical polarized 2 GHz 16 dBi antenna (\$15) and a 3456 MHz 16 dBi antenna (\$25). Dave was taking orders for the devices. Dave and Chip were planning 3 and 10 GHz beacons for Guadalupe Mt AR and Frazier. 26 people present.

Pres Sez -We are on the edge of some great projects. After some encouragement and some success from surplus gear for 24 GHz over the last year or so, we have a jump-start. Thanks to Dave, WA6CGR, we have a large supply (which is quickly disappearing) of what are thought to be good material for 24 GHz narrowband radios that are much easier to work on than previous units. In the next couple of months we ought to see a great deal of information on converting these Remec 23 GHz units. Sam, W6VLM has actually converted the RF parts of the units and is using them on 24 GHz. Since the units are sandwich construction, they are much easier to work on than older units.

Here are some of my observations: Unlike the old synthesizers, the synthesizer in the new units is very usable. Although the RF units appear to have a pretty high IF at 2.5 GHz, it looks to me like the processor unit may have a second stage that will offer a lower IF. The overall unit powers through the N connector with -40v on the center pin. As an added plus the units snap on to the back of a one-foot dish that is also available. The +16 dBm output should be sufficient for most contacts.

All of that makes them look like an exciting project. To use marketing phrase-"Get 'em while they're hot!" Dave has priced them to sell at about \$20 each (and they are only hot if you leave them on for a long time.)

In February the program for the meeting will be about what people are doing on 24 GHz. We will have a number of people bring information, projects, questions, successes and failures. We will also have test set ups to measure output power, general signal sensitivity on receive and frequency from DC to 26 GHz. We may even be able to do noise figure.

In the meantime bring in your projects to share at the meeting.

Doug K6JEY

Scheduling.

6 December Practical Radio Astronomy at Microwave Frequencies by John Hoot. He is going to talk about microwave radio astronomy. He is a well-known astronomer and one of the few who is active both in visual spectrum astronomy and in radio spectrum astronomy. His main page is at: <http://www.sscorp.com/observatory/>. His radio astronomy page is at: <http://24.5.47.244/observatory/hvrt/hvrt.html>.

3 January Chip N6CA: "Parabolic Reflector Focus testing with lasers"

February-- 24 GHz status review. Presentation by various members on the status of their 24 GHz stations. Frequency and power measurement test set-ups will be available for member's radios.

Banquet at the Guasti Cafe. With white elephant exchange and door prizes! (And good food)

March-- Noise Figure seminar- review of techniques with testing available through 24 GHz.

Info off the web.

Several articles have recently been added to the SBMS web pages in the section "Technical Papers & Projects Submitted by the San Diego Microwave Group". They include: "Qualcomm 'Texas' Synthesizer

Modification for Dual LO Frequency Operation", "Qualcomm 10 Volt Power and Bias Supply layout & pinouts", "Qualcomm 14 GHz 1 Watt Power Amplifier Retuning for 10 GHz, 3.4 GHz, or 5.7 GHz" (3 Articles on this

subject by AF1T, W1RIL, and N6IZW). The URL for these articles is "<http://www.ham-radio.com/sbms/sd/>. 73s from Ed Munn, W6OYJ

Microwave UPDATE 2001 Summary & Microwave UPDATE 2001 was held in Sunnyvale, CA September 27-30, 2001. Over 100 microwave Amateur Radio operators from USA, Germany, Great Britain, Slovenia, Canada, Japan, and Australia attended the conference.

The first day, Thursday was exceptional. Great weather and great surplus deals around Silicon Valley. Participants came back to the hotel with armloads of goodies. Then it was off to Stanford's 150-foot dish! You should have seen the eyes and faces of everyone as they got out of the carpools and looked up at the gigantic dish. Eight CW and SSB contacts were made on 1296 using the dish with about 20 watts.

Friday and Saturday were the presentations of papers ranging from microwave EME operating to equipment design. Friday night was the swap meet (where some of the surplus acquired Thursday, was traded amongst the participants) and Noise Figure testing. The ladies enjoyed trips to Filoli Gardens, Stanford Shopping Center and other SF Bay area sights. Saturday night was filled with dinner and presentation of the prestigious Central States VHF Society John T. Chambers Memorial award to Will Jensby (W0EOM).

The conference ended on Sunday morning as an open to all swap was held in the parking lot. It was also show and tell time as a few of the enthusiasts set up their 10 GHz portable stations and listened for the Mt. Leeson Beacon! Watch for next year's conference to be held in the Northeast. Keep an eye on www.microwaveupdate.org for more info.

Jim & Will (N9JIM & W0EOM) From: "Jim Moss" Jim.Moss@nsc.com

More great (Oscar winning) pictures from W6YLZ and K6JEY are now up

and viewable on the web at: http://www.ham-radio.com/sbms/01_testpics/01_test_pics.html.

73 Chip N6CA

Activity reported at the 4 October meeting- Doug, K6JEY married off a daughter, had fun at Microwave Update 2001 in Sunnyvale and purchased many "things"; Mel, WA6JBD was playing with some NEC up and down converters and synthesizers, found a 13 w 10 W TWT; Ken, WB6DTA worked W1LP 500 miles and 900 miles on 2 mtrs, has been working on a new synthesizer for his Qualcomm rig; Chip, N6CA had fun roving during the contest (38 stations 104 contacts), says the Frazier beacon now another 20 higher has been heard out 750 miles; Chris, N9RIN found a 1w 10 GHz transistor for \$111; Kurt, K6RRA managed to keep his 10 GHz rig working for a few contacts on the second weekend and had 10 contacts with 10 call signs; John, N6AX has modified one of the original 10 GHz MA-COM rigs; Dave, WA6CGR had 131 contacts and 41 Call signs in the contest, had fun at the WSWSS conference (won the IC706MkIIG) and was the auctioneer at the Update 2001; Ed, W6OYJ made 60 contacts during the contest from 4 locations, had fun and purchased a lot of stuff at the Update, and is updating some of the Qualcomm modification notes on the web site; Richard, WW7D has on order one of the later 10 GHz MA-COM white boxes and a dish; Dick, K6HIJ went to the Update; Gordon, WA6FMX went to the Update; Glenn, KE6HPZ had fun in the contest from Frazier and enjoyed the Update; ED, AL7EB from Alaska had fun at the Update and was back to a meeting for the first time in some 20 years (Ed had a DEMI 10 GHz rig, a 10 GHz beacon on Kodiak Is. and some locals now are getting on 10 GHz in Alaska); Sam K6VLM had a second 24 GHz narrowband rig to show along with a CW Ider to plug into a IF radio; Jim, K6ML did some 1296 MHz work; Larry, K6HLH had fun in the contest from his home station, had the last banquet ticket drawn at the Update; Gary, W6KVC now has a FT-817; Bob, W6SYA learned a bunch more during the contest while at Diamond Bar; Chuck, N6EQ had fun on the second weekend with his 40 mw and managed 36 contacts, one of which was from Heaps DM14kf to Cory DM08pk with WA6EXV; Frank, WB6CWN had lots of fun during the contest with so many stations on the air, had lots of contacts with just the open waveguide out the back of his car, made some 20 contacts with one out 800 km; dick, WB6DNX had fun during the contest from Heaps and Signal Hill, had 3 contacts on 24 GHz wide band with K6OW, bought lots of stuff at the Update; Chuck, WA6EXV worked lots of stations from Cory Pk but could have been more if liaison radios had been better, had a good time

at the Update, and is finally after being a ham for 60 years building a 1296 MHz rig; Bill, WA6QYR had fun in the contest with 170 Km on 24 GHz wide band and some 500 km on 10 GHz, purchased lot of "stuff" at the Update.

Wants and Gots (for sale)

Want manuals for HP8620 sweeper plug-ins HP86235A 1.9-4.3 GHz; 86241A 3.2-6.5 GHz; 86245A 5.9-12.4 GHz Larry K6HLH ljohns@qnet.com.

Want Schematic and sensor for HP-435A Dick K6HIJ

Want WR-90 flex guide John N6AX 714-993-0435

For sale: AIL 7513 noise figure meter: 30 MHz input, analog meter, high and low ranges, thumb wheel ENR setting in tenths of db. AIL 7616 noise source: N male connector, 1-12 GHz with current calibration data AIL 7615 noise source: SMA female connector, .01-1.5 GHz with current calibration data. Both heads were compared to two HP 346A heads on an Eaton 2075 noise figure meter. Both are 15 dB ENR heads. Calibration data is included. Whole set is \$550 plus shipping. Other: Micronetics noise source: 30-500 MHz 31 dB ENR \$50 with 16 db attenuator \$75. Calibration data included. SMA female output. Doug K6JEY Long Beach, Ca. 562-424-3737.

73's Bill



One of the Microwave Update 2001 speakers carried this demonstration of a 47 GHz ATV transceiver to the convention. They managed to connect up the video to the projection system and display on the large screen what the rig could do. Photo by Bill, WA6QYR.

The San Bernardino Microwave Society is a technical amateur radio club affiliated with the ARRL having a membership of over 90 amateurs from Hawaii and Alaska to the east coast. Dues are \$15 per year, which includes a badge and monthly newsletter. Your mail label indicates your call followed by when your dues are due. Dues can be sent to the treasurer as listed under the banner on the front page. If you have material you would like in the newsletter please send it to Bill WA6QYR at 247 Rebel Road Ridgecrest, CA 93555, bburns@ridgecrest.ca.us, or phone 760-375-8566. The newsletter is generated about the 15th of the month and put into the mail at least the week prior to the meeting. This is your newsletter. SBMS Newsletter material can be copied as long as SBMS is identified as source.

San Bernardino Microwave Society newsletter

247 Rebel Road

Ridgecrest, CA

93555

USA

[back to SBMS homepage](#)

